

Title V

Model General Permit Template

OIL FIELD SUMPS

Template # SJV-SU-1-0

oil production sumps

**located at facilities producing, gathering, separating, processing and/or storing
crude oil in an oil field**

This template is designed to streamline the Title V permitting process for sumps meeting the above qualifications. Applicants for Title V permits choosing to use this template will only have to complete the enclosed template qualification form and submit it with their Title V application.

San Joaquin Valley Unified Air Pollution Control District

**Final
Title V Model General Permit Template
Oil Production Sumps**

Template No: SJV-SU-1-0

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

TITLE V GENERAL PERMIT TEMPLATE SJV-SU-1-0

ENGINEERING EVALUATION

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I. Purpose

The purpose of the proposed template is to streamline the Title V permitting process by identifying the federally applicable requirements for certain crude oil production sumps and to establish permit conditions which will ensure compliance with such requirements. These conditions will be incorporated into the Title V permit of any facility choosing to make use of the template.

II. Template Applicability

The template applies to crude oil production sumps which:

Are in continuous use for separating crude oil produced water and solids, and

Are first-, second-, or third-stage sumps, and

Are at facilities producing, gathering, separating, processing and/or storing crude oil in an oil field.

The applicability of this template is determined by completion of the Template Qualification Form (TQF) attached as Appendix C. The completed and signed TQF must be submitted with the Title V application.

III. Applicable Requirements

Units may be subject to “federally enforceable “ requirements as well as requirements that are enforceable by the “District-only.” Federally enforceable requirements will be enforceable by the EPA, the public, and the District through Title V permit conditions identified as federally enforceable. District-only requirements represent local or state regulations for which the EPA has no direct enforcement authority. The final Title V permits issued by the District will contain both federally enforceable and District-only requirements.

District-only requirements are not addressed in this template except for those used in streamlining of multiple requirements (see discussion in section IV). District-only requirements used in streamlining of multiple requirements will become federally enforceable. Table 1, Applicable Requirements, does not necessarily include all federally enforceable requirements that apply to oil field sumps qualifying to use this template, and it is the source’s responsibility to

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determine any and all applicable requirements to which the source is subject. Generally, requirements not addressed by this template are those that require a source-specific analysis, or are covered by other templates.

Table 1. Applicable Requirements

Rule Category	Rule/Regulation	Citation	Description
A	SJVUAPCD Reg. IV	4402	Crude Oil Production Sumps
B	SJVUAPCD Reg. II	2201	New Source Review Rule
B	SJVUAPCD Reg. II	2520	Federally Mandated Operating Permits
C	SJVUAPCD Reg. IV	4623	Storage of Organic Liquids
C	SJVUAPCD Reg. IV	4625	Wastewater Separators

Category “A” rules contain requirements that are directly applicable to the qualifying units; compliance with these applicable requirements will be demonstrated in this engineering evaluation and assured by the template permit conditions. In section IV, Compliance, the federally-enforceable requirements from category “A” rules are listed with a discussion of how compliance with these requirements is achieved.

Category “B” rules contain federally enforceable requirements that were not addressed in this template. These may not be all of the federally enforceable requirements for this unit. Requirements from these rules must be addressed by the applicant outside of this template within the Title V application Compliance Plan form (TVFORM-004). Category “B” listing is included in this table as an informational item to assist applicants in this effort.

Category “C” rules contain requirements which have been determined not to be applicable to qualifying units. A permit shield is proposed for the category “C” rules. An explanation of the determination of non-applicability of category “C” rules is included in the permit shield section of this evaluation.

IV. Compliance

This section contains a discussion of how compliance is assured with each requirement addressed in this template.

District Rule 4402

Units qualifying to use this template are sumps, meaning a lined or unlined surface impoundment or excavated depressions. District Rule 4402 requires the use of a cover to limit VOC emissions from sumps. These required covers may be flexible-

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floating, rigid-floating or fixed-roof and must be maintained in a manner that assures the integrity of the cover.

Template permit conditions will be added to assure compliance with the requirements of this rule. See template permit conditions #1-#9.

District Rule 4402, formerly District Rule 465.2, has been SIP approved. A permit shield will be granted for District Rule 4402 through template permit condition #10.

V. Permit Shield

A permit shield, according to District Rule 2520, 13.2, legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Title V permit is considered compliance with all applicable requirements upon which those conditions are based. A permit shield is requested in template permit condition #10.

A permit shield will be granted for District Rule 4402 section 5.3. This section addresses the requirements that would apply if a sump would be replaced by an aboveground tank. A replacement tank that serves an identical function as the sump replaced no longer qualifies under this template. A permit shield is granted from this requirement in the template permit condition #11.

A permit shield will be granted for District Rule 4623 because facilities qualifying to use this template are limited to those which are not above ground tanks.¹ A permit shield is granted from this requirement in template permit condition #11.

A permit shield will also be granted for District Rule 4625 because facilities qualifying to use this template are limited to those which are not wastewater separators.² A permit shield is granted from this requirement in template permit condition #11.

VI. Permit Conditions

The following conditions will be incorporated into the Title V permit of any facility choosing to make use of template #SJV-SU-1-0:

1. The sump shall be designed and equipped with properly installed, maintained, and operated flexible floating cover, rigid floating cover, or fixed-roof cover. [District Rule 4402, 5.1]

¹ As defined in District Rule 4623. See Appendix A.

² As defined in District Rule 4625. See Appendix A.

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2. The cover material shall be impermeable to VOCs. [District Rule 4402, 5.2.1]
3. The cover shall be maintained so that there are no holes, tears, or other such openings, except pressure - vacuum valves, in the cover material which allow the emission of VOCs. [District Rule 4402, 5.2.2]
4. The cover shall be maintained so that the edge of any cover forms a gap-free seal with the top edge of the sump. Gap-free means there are no visible gaps which exceed 0.006 inch. [District Rule 4402, 5.2.4]
5. If equipped with a rigid floating cover, the cover shall be equipped with a closure device between the sump wall and the cover edge which maintains the gap between the wall and cover at every point around the perimeter at no more than one (1) inch. [District Rule 4402, 5.1.2]
6. The cover shall be maintained such that all pressure/vacuum vents are set to within ten (10) percent of the maximum safe working pressure of the cover. [District Rule 4402, 5.2.5]
7. All hatches shall be kept closed and gap-free, except during maintenance, inspection, or repair. [District Rule 4402, 5.2.3]
8. Analysis of halogenated exempt compounds shall be performed using ARB Method 432. [District Rule 4402, 6.2.1]
9. The efficiency of any VOC destruction device shall be measured annually by EPA Method 25, 25a, or 25b, as applicable, and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422. [District Rule 4402, 6.2.2]
10. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of SJVUAPCD Rules 4402 (adopted April 11, 1991; last amended Dec. 17,1992). A permit shield is granted from this requirements. [District Rule 2520, 13.2]
11. The requirements of District Rules 4402 section 5.3 (amended Dec. 17, 1992), 4623 (amended Dec. 17,1992), and 4625 (amended Dec. 17,1992) do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2]

APPENDIX A

DEFINITIONS
FOR
TEMPLATE #SJV-SU-1-0

Clean Produced Water: produced water containing less than 35 milligrams per liter of VOCs as determined by EPA Test Method 413.2, or 418.1 and/or, if necessary, EPA Test Method 8240. Ethane provided the ethane fraction of the hydrocarbon vapors is less than 20 percent by volume, and hydrocarbons heavier than C14 may be excluded from the total concentration. Water samples collected for analysis shall be collected within a five (5) foot radius of the sump inlet. One (1) sample shall be collected near each inlet and the results averaged.

First Stage Production Sump: a sump which receives a stream of crude oil and produced water directly from an oil production well(s) or a field gathering system(s).

Gap-free: means there shall be no visible gaps, that is gaps which exceed 0.060 in.

Heavy Oil: produced crude oil that has an API gravity of less than 30 degrees by ASTM Method D-1298-85.

Pit: any excavation for which the intended use under normal conditions is the intermittent or emergency collection of crude oil and water and is not used for the separation of oil and water.

Pond: any very large excavation that is used for the storage and or disposal of clean produced water, is not used for the separation of oil and water, and has no more than five (5) percent visible oil-covered surface area.

Produced Water: water, including oily water associated with the production, gathering, separating, and processing of crude oil.

Second Stage Sump: a sump which receives produced water from one (1) or more upstream first stage separation processes, including sumps, free water knockout vessels, wash tanks, etc.

Small Producer: a person who produces an average over the preceding two (2) calendar years of less than 6,000 barrels per day of crude oil from all operations within the County at the time of a request for an exemption for second or third stage small producer sumps that have a liquid surface area of less than 1,000 square feet and that are used exclusively in the production of heavy oil, and does not engage in petroleum refining, transportation, or marketing of refined petroleum products.

Sump: a lined or unlined surface impoundment or excavated depression in the ground which, during normal operation, is in continuous use for separating crude oil produced water, and solids in oil producing fields.

Third Stage Sump: a sump which receives produced water from one (1) or more upstream second stage sumps, or subsequent separation processes.

Very Small Producer: a person producing an average over the preceding two (2) calendar years of less than 50 barrels of crude oil per day per lease and an average over the preceding two (2) calendar years of less than 300 barrels of crude oil per day from all operations within the county at the time of a request for an exemption pursuant to Section 6.1.

Wastewater Separator: any device or piece of equipment that is used to remove oil and associated chemicals from water, or any device, such as a flocculation tank, clarifier, etc. that removes petroleum-derived compounds from wastewater.

APPENDIX B

EPA COMMENTS / DISTRICT RESPONSE
FOR
TEMPLATE #SJV-SU-1-0

EPA COMMENTS / DISTRICT RESPONSE

The EPA's comments regarding oil field sumps templates are encapsulated below followed by the District's response. A copy of the EPA's 12/11/96 letter is available at the District.

A. Template Applicability

1. **EPA COMMENT**

This section should refer to Appendix B, not E, in the second to last sentence.

DISTRICT RESPONSE

This section reference was changed to read Appendix B.

B. Applicable Requirements

1. **EPA COMMENT**

This section should be revised to clarify that federally enforceable requirements in title V permits will be enforceable not only by EPA and the public, but by the District as well.

DISTRICT RESPONSE

This section was revised to clarify that title V permits will be enforceable by the District as well as the EPA and the public.

2. **EPA COMMENT**

A reference is made in the second paragraph of this section to gas turbines, rather than to oil field sumps.

DISTRICT RESPONSE

The reference discussed in the above comment was changed to oil field sumps.

C. Permit Shield

1. **EPA COMMENT**

Because Title V does not allow to be shielded from future requirements, the adoption date of rules that are included in the permit shield must be cited. Including the adoption date each rule would ensure that sources have a clear understanding of which version of the rule is shielded.

DISTRICT RESPONSE

The adoption dates and the last amended dates were both added to the rules under the permit shield condition.

2. EPA COMMENT

Section IV.C of Rule 465.2 addresses the requirements that would apply if a sump is replaced by an aboveground tank. Because such a replacement would affect whether the unit is subject to this template, the District must revise the permit shield pertaining to District Rule 4623 to clarify that a replacement tank serving an identical function as the sump replaced no longer qualifies under this template.

DISTRICT RESPONSE

The following paragraph was added to the permit shield section of the template:

A permit shield will be granted for District Rule 4402 section 5.3. This section addresses the requirements that would apply if a sump would be replaced by an aboveground tank. A replacement tank that serves an identical function as the sump replaced no longer qualifies under this template. A permit shield is granted from this requirement in the template permit condition #11.

D. Permit Conditions

1. EPA COMMENT

The District must add a permit condition that comports with the requirements of section III.B.3 of Rule 465.2, providing that all hatches be kept closed and gap-free, except during maintenance, inspection, or repair.

DISTRICT RESPONSE

The following permit condition was added to the template:

All hatches are kept closed and gap-free, except during maintenance, inspection, or repair.

2. EPA COMMENT

The District must identify the specific sections of District Rule 4402 that serve as the origin and authority for each permit condition.

DISTRICT RESPONSE

All permit conditions have been identified with specific sections of District Rule 4402.

3. EPA COMMENT

The permit must contain a condition that states the definitions in the rules cited as the origin and authority- or alternatively in the glossary provided in Appendix A- for each permit condition shall apply to that condition. Otherwise, if a permit shield is in place, there could be disputes about how the requirements should be interpreted.

DISTRICT RESPONSE

A similar condition was added to the umbrella template stating “When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply.” If a facility chooses not to use the umbrella the above condition will be added as a permit condition.

4. EPA COMMENT

The District must incorporate conditions into this permit template that require that the source perform the tests identified in section V.B of District Rule 465.2. EPA recommends that the testing be required on an annual basis.

DISTRICT RESPONSE

The following permit conditions were added to the template:

Analysis of halogenated exempt compounds shall be performed using ARB Method 432.

The efficiency of any VOC destruction device shall be measured by EPA Method 25, 25a, or 25b, as applicable, and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422.

5. EPA COMMENT

Any reference to District Rule 4402, such as the reference to determining the compliance date in condition 1, should include the adoption date of the SIP-approved rule.

DISTRICT RESPONSE

The permit condition that was discussed above has been modified to the following:

As of (Rule 4402 compliance date, adopted April 11, 1991 and last amended dec. 17, 1992), the sump shall be designed and equipped with properly installed, maintained, and operated flexible floating cover, rigid floating cover, or fixed-roof cover.

E. Appendix A - Definitions

1. EPA COMMENT

This appendix clearly identifies the very specific meaning defined in District Rule 4402 - and from Rule 4625 for wastewater separators - that apply to a unit in the context of this template. As part of this appendix, the District should add a statement citing the origin and authority of each definition. In addition, the definitions for “sump” and “volatile organic compounds” listed in District Rule 4402 should be added Appendix A such that the appendix includes a complete listing of all the terms defined in the rule.

DISTRICT RESPONSE

The definition for “sump” was added to appendix, but “volatile organic compounds” was not added to the appendix since it was not listed in Rule 4402.

F. Appendix B - Template Qualification Form

1. EPA COMMENT

In the fifth question on the qualification form, the District must specify the test method identified in section III.A.4 of Rule 465.2.

DISTRICT RESPONSE

The test method was added to the qualifier discussed above.

2. EPA COMMENT

The compliance certification language must be made consistent with part 70 requirements: “Based on information and belief formed after reasonable inquiry 1) the information on this form is true accurate, and complete and 2) the facility compliance with this template’s permit conditions.”

DISTRICT RESPONSE

The compliance certification language has been modified to the following:

Based on information and belief formed after reasonable inquiry 1) the information on this form is true accurate, and complete and 2) the facility compliance with this template’s permit conditions

3. EPA COMMENT

We suggest that the template qualification form also provide information on the origin and authority of the qualification terms. This will assist the source in determining its eligibility to use the template conditions.

DISTRICT RESPONSE

The origin of each qualifier will be cited.

APPENDIX C

TEMPLATE QUALIFICATION FORM
FOR
TEMPLATE #SJV-SU-1-0

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Title V General Permit Template Qualification Form

District permit # _____

Please answer the questions in the table below. A sump (structure) which meets the criteria of this table is qualified to use this template as part of a Title V application. To use this template, remove this sheet and attach to application.

Yes	No	Description of Qualifying Units
		Is the structure a sump, that is, a lined or unlined surface impoundment or excavated depression in the ground which, during normal operation, is used for separating crude oil produced water, and solids in oil producing fields? If "yes", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 2.0]
		Is the sump a second or third stage, sump owned by a small producer(see Appendix A) used exclusively in the production of heavy oil with a liquid surface area of less than 1000 square feet? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.1]
		Is the sump a second or third stage sump containing clean produced water (see Appendix A)? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.2]
		Is the sump a second or third stage sump owned by a very small producer (see Appendix A) used exclusively in the production of heavy oil with a liquid surface area of less than 5000 square feet? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.3]
		Has the sump shown estimated emissions of 0.007 lb/sq. ft. per day or less by the ARB flux-box test method? The flux-box test shall be performed as described in the ARB Evaluation Report No. C-86-105. If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.4]
		Is the first-, second-, or third-stage sump used less than seven days in any one calendar month and less than 21 days in any one calendar year? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4.1.5]
		Is the sump located at a petroleum refinery? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.6]
		Is the structure a pit or pond (see Appendix A)? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4402, 4.1.7]
		Is the structure a wastewater separator (see Appendix A)? If "no", continue to next question; otherwise STOP - you cannot use this template. [District Rule 4625, 2.0]
		Is the structure an above ground tank used for the storage of organic liquids? If "yes", STOP - you cannot use this template; otherwise you qualify to use this template. [District Rule 4402, 5.3]

When must the unit meet the requirements of Rule 4402 as stated in the unit's compliance schedule submitted in compliance with District Rule 4402, sec. 7.0?

COMPLIANCE DATE: _____

Based on information and belief formed after reasonable inquiry 1) the information on this form is true accurate, and complete and 2) the facility compliance with this template's permit conditions:

Signature of Responsible Official

Date

Name of Responsible Official (Please print)